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August 25, 2003

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Art Unit 1636**

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AUG 28 2003  
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Re: U.S. Utility Patent Application  
Appl. No. 10/005,876; Filed: December 7, 2001  
For: **Methods and Compositions for Synthesis of  
Nucleic Acid Molecules Using Multiple Recognition Sites**  
Inventors: CHESNUT *et al.*  
Our Ref: 0942.5340002/RWE/BJD/JKM

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Second Supplemental Information Disclosure Statement;
2. List of cited references on Form PTO-1449 (7 sheets);
3. A copy of each reference cited on Form PTO-1449 (20 documents: AH7, AM9, and AT102-AS108); and
4. One (1) return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Commissioner for Patents  
August 25, 2003  
Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "Brian J. Del Buono", with a large, sweeping flourish extending to the right.

Brian J. Del Buono  
Attorney for Applicants  
Registration No. 42,473

RWE/BJD/JKM/acr  
Enclosures

SKGF\_DC1:171452.1



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of:

CHESNUT *et al.*

Appl. No. 10/005,876

Filed: December 7, 2001

For: **Methods and Compositions  
for Synthesis of Nucleic Acid  
Molecules Using Multiple  
Recognition Sites**

Confirmation No. 7958

Art Unit: 1636

Examiner: Ketter, J.S.

Atty. Docket: 0942.5340002/RWE/BJD/JKM

### Second Supplemental Information Disclosure Statement

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Second Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Information Disclosure Statement filed electronically on July 8, 2003, and Applicants' First Supplemental Information Disclosure Statement filed on July 8, 2003, in connection with the above-captioned application. A copy of each document is also provided.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates

should not be construed as an admission that the information was actually published on the date indicated.

This Second Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Brian J. Del Buono  
Attorney for Applicants  
Registration No. 42,473

Date: August 25, 2003

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FORM PTO-1449

ATTY. DOCKET NO.  
0942.5340002/RWE/BJD/JKMAPPLICATION NO.  
10/005,876APPLICANT  
CHESNUT *et al.*FILING DATE  
December 7, 2001GROUP  
1645SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA7						
	AB7						
	AC7						
	AD7						
	AE7						
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	AH7	4,626,505	12/02/1986	Falco	435	172.3	02/24/1984
	AI7						
	AJ7						
	AK7						

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM9	WO 96/40722	12/19/1996	WIPO			Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>102</u>	
	AS	<u>102</u>	
	AT	<u>102</u>	Barnes, G., and Rine, J., "Regulated expression of endonuclease <i>EcoRI</i> in <i>Saccharomyces cerevisiae</i> : Nuclear entry and biological consequences," <i>Proc. Natl. Acad. Sci. USA</i> 82: 1354-1358, National Academy of Sciences (1985).

EXAMINER

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>103</u>	Brent, R., and Ptashne, M., "A bacterial repressor protein or a yeast transcriptional terminator can block upstream activation of a yeast gene," <i>Nature</i> 312: 612-615, Macmillan Journals Ltd. (1984).
	AS	<u>103</u>	Cormack, B., "Directed Mutagenesis Using the Polymerase Chain Reaction," in <i>Current Protocols in Molecular Biology</i> , Ausubel, F.M., <i>et al.</i> , eds., John Wiley & Sons, Inc., New York, NY, pp. 8.5.1-8.5.10 (1997).
	AT	<u>103</u>	Enquist, L.W., and Weisberg, R.A., "The Red Plaque Test: A Rapid Method for Identification of Excision Defective Variants of Bacteriophage Lambda," <i>Virology</i> 72: 147-153, Academic Press, Inc. (1976).

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	AL						Yes No
	AM						Yes No
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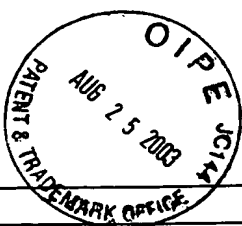
## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>104</u>	Feinbaum, R., "Vectors Derived from Plasmids," in <i>Current Protocols in Molecular Biology</i> , Ausubel, F. M., <i>et al.</i> , eds., John Wiley & Sons, Inc., New York, NY, pp.1.5.1-1.5.17 (1998).
	AS	<u>104</u>	Iino, T., and Kutsukake, K., "Trans-acting Genes of Bacteriophages P1 and Mu Mediate Inversion of a Specific DNA Segment Involved in Flagellar Phase Variation of <i>Salmonella</i> ," <i>Cold Spring Harbor Symposia on Quantitative Biology</i> 45: 11-16, Cold Spring Harbor Laboratory (1981).
	AT	<u>104</u>	Johnson, R.C., <i>et al.</i> , "Isolation of the gene encoding the Hin recombinational enhancer binding protein," <i>Proc. Natl. Acad. Sci. USA</i> 85:3484-3488, National Academy of Sciences (1998).

EXAMINER

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## SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

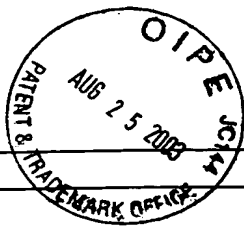
	AR	<u>105</u>	Klippel, A. <i>et al.</i> , "Isolation and characterization of unusual <i>gin</i> mutants," <i>The EMBO Journal</i> 7: 3983-3989, IRL Press Inc. (1988).
	AS	<u>105</u>	Koch, C., <i>et al.</i> , " <i>Escherichia coli</i> host factor for site-specific DNA inversion: Cloning and characterization of the <i>fis</i> gene," <i>Proc. Natl. Acad. Sci. USA</i> 85:4237-4241, National Academy of Sciences (1988).
	AT	<u>105</u>	Langeveld, S.A. <i>et al.</i> , "Expression of an <i>Escherichia coli phr</i> gene in the yeast <i>Saccharomyces cerevisiae</i> ," <i>Mol. Gen. Genet.</i> 199: 396-400, Springer-Verlag (1985).

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	AO						Yes No
	AP						Yes No

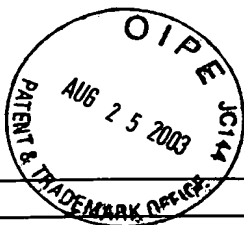
## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>106</u>	Miller, H.I. <i>et al.</i> , "int-h: an <i>int</i> Mutation of Phage $\lambda$ That Enhances Site-Specific Recombination," <i>Cell</i> 20: 721-729, MIT (1980).
	AS	<u>106</u>	Okayama, H., and Berg, P., "Bacteriophage Lambda Vector for Transducing a cDNA Clone Library into Mammalian Cells," <i>Molecular and Cellular Biology</i> 5: 1136-1142, American Society for Microbiology (1985).
	AT	<u>106</u>	Osuna, R., <i>et al.</i> , "Identification of two functional regions in Fis: the N-terminus is required to promote Hin-mediated DNA inversion by not I excision," <i>EMBO J.</i> 10:1593-1603, Oxford University Press (1991).

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>107</u>	Sambrook, J., <i>et al.</i> , <i>Molecular Cloning: A Laboratory Manual</i> , 2nd ed., Cold Spring Harbor Laboratory Press, New York, NY, pp. 16.6-16.8, (1989).
	AS	<u>107</u>	Sauer, B., "Expression and Functioning in Yeast of a Bacterial Site Specific Recombination System," <i>J. Cell. Bio. Chem. Supp.</i> 10(b): 242 (1340), Alan R. Liss, Inc. (1986).
	AT	<u>107</u>	Sauer, B., and Henderson, N., "Site-specific DNA recombination in mammalian cells by the Cre recombinase of bacteriophage P1," <i>Proc. Natl. Acad. Sci. USA</i> 85: 5166-5170, National Academy of Sciences (1988).

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	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>108</u>	Stryer, L., "The DNA Template Contains Stop Signals for transcription," in <i>Biochemistry</i> , 2nd ed., W.H. Freeman and Co., New York, NY, p. 610 (1981).
	AS	<u>108</u>	Vetter, D. <i>et al.</i> , "Site-specific recombination of yeast 2- $\mu$ m DNA <i>in vitro</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 80: 7284-7288, National Academy of Sciences (1983).
	AT	<u>108</u>	

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